

CLAIMS

1. A computer system adapted to play audio files, said computer system comprising:
a computer subsystem comprising a system CPU and a drive for storing audio data; and
an audio controller comprising a drive interface for selectively accessing said audio data from said drive and memory for storing said audio data, said controller being adapted to access, store and play said audio data when said computer subsystem is in an inactive state.
2. A computer system as claimed in claim 1, said audio controller further comprising decoder circuitry receiving said audio data and outputting a decompressed stream of audio data.
3. A computer system as claimed in claim 2, said decoder circuitry further comprising a digital to analog circuit receiving said decompressed audio data stream and generating an analog audio signal.
4. A computer system as claimed in claim 2, said decoder circuitry further comprising a buffer memory for temporary storage of said decompressed audio data stream.
5. A computer system as claimed in claim 4, wherein said buffer memory comprises a first-in-first-out (FIFO) memory.
6. A computer system as claimed in claim 2, said controller further comprising interface circuitry to interface said stream of audio data with an external digital-to-analog converter circuit, and said computer subsystem further comprises said external digital-to-analog converter circuit for receiving said decompressed data stream from said interface.

1 7. A computer system as claimed in claim 1, said controller further comprising an
2 LCD interface 57 for generating signals to an LCD display for displaying directory and
3 file information data associated with said drive.

4 8. A computer system as claimed in claim 1, said controller further comprising a
5 function key interface operable with a plurality of function keys, said function keys
6 generating user commands to said controller through said function key interface.

7 9. A computer system as claimed in claim 2, said controller further comprising a
8 processor for controlling the operation said drive and said decoder circuitry.

9 10. A computer system as claimed in claim 9, wherein said controller further
10 comprises a flash memory for storing data and commands for use by said processor for
11 controlling said drive and said decoder circuitry.

12 11. A computer system as claimed in claim 1, said controller further comprising an
13 SMBus interface to exchange commands and data along an SMBus.

14 12. A computer system as claimed in claim 1, said audio data on said drive being
15 stored as a file in a directory, said controller being further adapted to permit users to
16 traverse said drive and select desired directory and file.

17 13. A computer system as claimed in claim 1, said audio data further comprising tag
18 data indicative of a title, and said controller further comprising a display interface for
19 displaying said tag data upon access of said audio data by said controller.

20 14. A computer system as claimed in claim 1, said controller further comprising a
21 switch for switching said controller to an inactive state when said power is supplied to
22 said computer subsystem, and for switching said controller to an active state when said
23 power is not being supplied to said computer subsystem.

1 15. A computer system as claimed in claim 1, said drive comprising a hard disk drive
2 or a CD-ROM drive being adapted to operate of an IDE bus.

3 16. A computer system as claimed in claim 1, said drive comprising an IDE drive and
4 said drive interface comprising an IDE drive interface for exchanging commands and
5 data between said controller and said drive.

6 17. A computer system as claimed in claim 2, wherein said audio data comprising
7 MP3 audio data, and said decoder circuitry comprising an MP3 audio data decoder.

8 18. A computer system adapted to play audio data when said computer system is in an
9 inactive state, comprising:

10 a computer subsystem comprising a system CPU and a drive for storing audio
11 data; and

12 an audio controller comprising a drive interface for selectively accessing said
13 audio data from said drive and decoder circuitry for decoding said audio data and
14 generating decoded audio data, said controller being adapted to access said drive to
15 retrieve said audio data and decode said audio data when said computer subsystem is in
16 an inactive state.

17 19. A computer system as claimed in claim 18, said decoder circuitry further
18 comprising a digital to analog circuit receiving said decoded audio data and generating an
19 analog audio signal.

20 20. A computer system as claimed in claim 19, said decoder circuitry further
21 comprising a buffer memory for temporary storage of said decoded audio data.

22 21. A computer system as claimed in claim 2, said controller further comprising a
23 digital-to-analog interface to interface said decoded audio data with an external digital-to-

1 analog converter circuit, and said computer subsystem further comprises said external
2 digital-to-analog converter circuit for receiving said decoded data from said interface.

3 22. A computer system as claimed in claim 18, said controller further comprising an
4 LCD interface 57 for generating signals to an LCD display for displaying directory and
5 file information data associated with said drive.

6 23. A computer system as claimed in claim 18, said controller further comprising a
7 function key interface operable with a plurality of function keys, said function keys
8 generating user commands to said controller through said function key interface.

9 24. A computer system as claimed in claim 23, said controller further comprising a
10 processor for controlling the operation said drive and said decoder circuitry.

11 25. A computer system as claimed in claim 24, wherein said controller further
12 comprises a flash memory for storing data and commands for use by said processor for
13 controlling said drive and said decoder circuitry, and wherein said commands and data
14 being supplied to said processor upon activation of one of said function keys.

15 26. A computer system as claimed in claim 18, said controller further comprising an
16 SMBus interface to exchange commands and data along an SMBus.

17 27. A computer system as claimed in claim 18, said audio data on said drive being
18 stored as a file in a directory, said controller being further adapted to permit users to
19 traverse said drive and select desired directory and file.

20 28. A computer system as claimed in claim 18, said audio data further comprising tag
21 data indicative of a title, and said controller further comprising a display interface for
22 displaying said tag data upon access of said audio data by said controller.

- 1 29. A computer system as claimed in claim 18, said controller further comprising a
2 switch for switching said controller to an inactive state when said power is supplied to
3 said computer subsystem, and for switching said controller to an active state when said
4 power is not being supplied to said computer subsystem.
- 5 30. A computer system as claimed in claim 18, said drive comprising a hard disk
6 drive or a CD-ROM drive being adapted to operate of an IDE bus.
- 7 31. A computer system as claimed in claim 18, said drive comprising an IDE drive
8 and said drive interface comprising an IDE drive interface for exchanging commands and
9 data between said controller and said drive.
- 10 32. A computer system as claimed in claim 18, wherein said audio data comprising
11 MP3 audio data files, and said decoder circuitry comprising an MP3 audio data decoder.
- 12 33. A computer system as claimed in claim 18, further comprising memory for
13 storing said audio data.
- 14 34. A method for playing audio files in a computer system when said computer
15 system is in an inactive state, comprising the steps of:
16 activating an audio controller if a main CPU of a computer system is in an
17 inactive state;
18 selecting desired audio data; and
19 generating an audio data stream from said selected audio data.
- 20 35. A method as claimed in claim 34, further comprising the step of:
21 decoding said selected audio data and generating a decoded audio data stream.
- 22 36. A method as claimed in claim 34, further comprising the step of:
23 generating an analog audio signal from said audio data stream.

- 1 37. A method as claimed in claim 34, further comprising the step of:
2 storing said selected audio data in memory associated with said audio controller.
- 3 38. A method as claimed in claim 34, further comprising the steps of:
4 controlling a drive of said computer system to access said audio data; and
5 controlling said drive to retrieve said audio data.
- 6 39. A method as claimed in claim 38, further comprising the step of:
7 traversing said drive to locate said desired audio data.
- 8 40. A method as claimed in claim 34, further comprising the step of:
9 displaying information related to said audio data.
- 10 41. A method as claimed in claim 34, further comprising the step of:
11 coupling said controller to said CPU through an SMBus.